REMARKS/ARGUMENTS

Formal Matters

The Examiner objected to the Declaration. A Corrected Declaration was filed by mail on January 2, 2004.

Claim 1 is being amended herein and claim 9 is being canceled. Reconsideration and allowance are requested.

Prior Art Rejections

Claims 1-5 and 8-17 were rejected as being unpatentable over Stork et al. (EP '643, and the U.S.P.T.O.'s translation) in view of Cohen '980 and Portney '858. Reconsideration is requested.

Difference in Path Length

The Examiner acknowledged that Stork, the principal reference, was silent as to the claimed "difference in path length ..." recited in claim 1, and cited Cohen for this feature.

However, Cohen (U.S. 5,121,980) merely teaches, at col. 2, lines 30-68, a phase zone plate with parabolic shaped echelettes having a physical depth (optical path length) of about 0.00555 millimeters according to the relationship $\lambda/(\dot{\eta}-\eta)$, wherein λ is the design wavelength. All of the echelettes have the same physical depth (optical path length). There is no difference between adjacent echelettes. Only the light of the 0th order is thus diffracted. The light of the other orders is lost and not diffracted.

The invention differs therefrom. According to the invention, there is a difference in the path length of the optical path between adjacent concentric zones, wherein the difference is an integral multiple of n = 2 or more of the design wave length. The physical depth varies from zone to zone by 0,3 µm when the design wave length is about 550nm (page 7 of the description, four lines from the bottom).

(The actual inventive lenses which are on the market have an extremely small loss of focused light, only about 1/100,000 of the complete intensity.)

Thus, by this feature, the inventive intraocular lens (IOL) achieves a high image quality and is distinguishable from the combination of Stork and Cohen.

Arrangement of Central and Annular Areas

The Examiner then cited Portney for the feature of claim 1 wherein the annular area is disposed in the lens part having the aspherical curvature profile.

Portney (U.S. 5,225,858) discloses an IOL having a aspherical progressive portion throughout a plurality of annular areas and the central zone (col. 4, lines 60-68 of the reference). In contrast, the invention of claim 1 has a single annular area.

The central zone and the annular zones provide far vision (far zones) and near vision (near zones), as described at col. 2, lines 23-30 of the reference. The zones are arbitrarily defined, as the boundaries of zones are indicated in phantom lines in figure 1 (col. 6, lines 11-21 of the reference). The corrective powers of the central zone and of the annular zones are achieved apparently by refraction and are distributed through the complete area of the aspherical lens.

Contrary to that, the single annular diffractive zone of the invention is arranged in the part in which the aspherical curvature profile has an effect. Such an arrangement is outside the central lens area which has a diameter of about 4 millimeters (claim 1, original claim 9). In contrast, the central zone of Portney is 2.0 to 2.1 millimeters (col. 2, line 62 of the reference).

Further, claim 1 recites that the central lens area has a spherical profile, such that the overall optical lens part of claim 1 has a combination of profiles not suggested by the art.

Thus, a combination of Stork and Portney would not suggest these features of claim 1.

Conclusion

For at least the above reasons, it is submitted that the amended claims are neither disclosed nor suggested by the combination of references cited by the Examiner. Allowance of claims 1-5, 8 and 10-17 is therefore requested.

I hereby certify that this correspondence is being faxed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, at (703) 872-9306 on March 18, 2004:

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March 18, 2004
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Respectfully submitted,

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